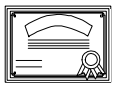
Introduction

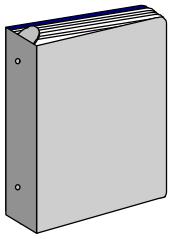


This Code of Practice is intended to promote a baseline of voluntary compliance practices by businesses. Businesses participating may choose to be certified by the City and awarded annual recognition certificates, which will be published in local media. The Code identifies options and alternatives to achieve pollution prevention goals according to the processes used in laboratories.

The Pollution Prevention Program is non-regulatory and is an educational and research tool that can provide you with information concerning methods of source reduction and pollution prevention for your business. If requested, Pollution Prevention personnel are available for on-site consultations to review your processes and discuss methods of pollution prevention and waste minimization as needed. The Program can also put you in contact with other non-regulatory services concerning hazardous waste, air quality and storm water, if requested.

Local and national contributors (see Appendix A) worked with the Albuquerque Public Works Department/Pollution Prevention Program staff to identify opportunities to reduce all types of discharges from biomedical facilities. Of particular interest is the reduction of metals and toxic organics to the sewer system.

❑ Understanding the Code of Practice for Biomedical laboratories



The enclosed material is the Biomedical Code of Practice. The Code of Practice is not a regulatory document. Methods and processes mentioned herein are not required, but are included as examples of methods of pollution prevention common to the industry. The Checklists refer to page numbers where specific information can be found in Section 4 and the appendices . If you find that the information you are seeking is not in the Code, please contact the Pollution Prevention Program at (505) 873-7004 to either request additional information, or to provide information on pollution prevention or waste management practices common to other businesses with similar processes and equipment.

A great amount of information is provided in this Code including references to hazardous waste issues. The hazardous waste issues are meant to inform you as to the potential environmental liabilities your business may encounter. Much of the information provided is to help your business reduce or eliminate hazardous waste. Your knowledge of hazardous waste issues is your best chance to avoid potential liabilities and to reduce or remove your wastes from the hazardous waste classification. (see Appendix D - Hazardous Waste Information Manual).

The Code includes:

- Introduction
- Section 1: Pollution Prevention Checklists
- Section 2: Biomedical Laboratories Information
- Section 3: Laboratory Checklists
- Section 4: Biomedical Laboratories Pollution Prevention Information
- Appendices

❑ What the Code Will Not Answer

This Code will not answer specific questions concerning health and safety. Due to the variety and number of chemicals and processes used in biomedical laboratories, the Code would be unable to maintain a focus on pollution prevention while attempting to address all health and safety issues. If you are concerned about facility health and safety, you should consult OSHA or other associations (see Appendix B for listings).

❑ The Need for the Code of Practice

Wastewater discharged from biomedical facilities to Publicly Owned Treatment Works (POTWs), is of interest to many municipal, state and federal agencies. POTWs must oversee the discharges and require the removal of pollutants such as metals and toxic organics, as well as other chemicals, to maintain compliance with their EPA permit discharge requirements. The City must meet the discharge requirements listed in its National Pollutant Discharge Elimination Permit (NPDES) for discharge to the Rio Grande river. In addition, there are several pollutants that are strictly prohibited from being discharged to the sewer system. Strictly prohibited pollutants include those that could create a fire hazard; corrosion; solid or viscous material that could cause obstructions; and any pollutant which could interfere in the operation of the POTW.

Although significant loading can come from other industrial sources, Albuquerque is a regional health care center with a significant number of biomedical laboratories that are of interest to the Albuquerque POTW. Statistics for 1992 from the U.S. Department of Commerce identified 35 medical laboratories in Albuquerque.

The major areas of opportunity identified for reducing metals and chemical discharges from biomedical facilities included the following:

Major Areas of Opportunity

1. Better understanding of the technologies and the capabilities of solvent recovery equipment and procedures.
2. Incorporate written, standardized procedures into the Chemical Hygiene Plan for proper disposal of chemical wastes from biomedical laboratory processes. The chemicals of concern are discussed throughout this Code of Practice.
3. Elimination of mercury bearing wastes.
4. Implement material substitutions to reduce toxicity of chemicals used and disposed of.
5. Improved record keeping and use of laboratory chemical inventory.

6. Improve spill control measures and chemical storage practices

This Code of Practice identifies Best Management Practices (BMP) for biomedical laboratories. This Code could be implemented by any POTW to assist businesses and to assure compliance with EPA and State discharge limits. The Code can also be implemented as part of a pretreatment program to include a pollution prevention program component. The guidelines can then be implemented by businesses who will then be certified and given annual recognition certificates under the Program.

Participation is voluntary, but the alternative is to face potentially more direct regulation through permitting, discharge reporting, etc. Avoiding the regulatory alternative is in everyone's interest. The goal of the Code of Practice concept is to achieve results through voluntary compliance which will ensure that the City's wastewater discharge to the Rio Grande is environmentally acceptable.

Avoiding this regulatory alternative is in everyone's interest.

❑ The Biomedical Industry

Biomedical laboratories, also called clinical laboratories, can be located in several different settings. Some are attached to medical facilities such as hospitals and clinics. Others are stand alone facilities that provide contract services to outside medical facilities, companies and the general public. Still others are located at research and development institutions or private companies. In Albuquerque, laboratories are found in a variety of settings because the city is a regional medical center, supports a military base and has a medical school.

The biomedical laboratories industry represents a $25 million wage industry in New Mexico, with over $12 million of those being Albuquerque wages. Most biomedical laboratories in New Mexico have fewer than 50 employees. Many labs are trying to implement their own solutions to pollution problems and are making strides to create a safer place to work in. Due to increased regulation and increasingly stiffer workplace and environmental standards, solutions to the use of safer laboratory chemicals needs to be identified and implemented to help this industry maintain a viable and competitive advantage.

Large biomedical laboratory facilities include the hospital labs which typically offer the full spectrum of analytical specialties. There are also the smaller labs that specialize in only a few areas such as the drug detection and fertility services laboratories.

Many of these facilities already practice some type of pollution prevention ranging from distillation of solvents to substituting less hazardous chemicals. The industry is closely regulated and inspected by different organizations ranging from OSHA to the College of American Pathologists. Biomedical laboratories are well aware of chemicals and hazards and these are spelled out in written plans such as the OSHA Laboratory Standard required Chemical Hygiene Plan that is overseen by an internal Safety Committee.